

ASH.005

Reason 1

Claims 2-9

Citations 1-4

Remarks:

As the barrier metal which exists between the insulation film formed from Cu wiring and HSQ, the adoption of proposed tungsten as the liner material which proposes the diffusion wall of Citation 3 is recognized as something which could be appropriately applied by one skilled in the art.

In addition, the filling process of step 2 of the conductive layer such as that of the invention relating to Claims 5-9 of the present invention is already known, as is suggested, for example, in Citations 2 and 4.

Reason 2

Claims 1, 5 and 7

Citation 5

Remarks:

Reference is made to the columns relating to "Prior Art Technology" and "Problems Overcome by the Invention". In Section [0007] in particular, reference is made to the essence of examining, in lieu of forming a barrier film for preventing Cu diffusion from Cu wiring, forming an insulation film using a material in which Cu is diffused with difficulty. It is suggested that HSQ be used as one of the materials. In the case of adopting HSQ as the insulation film, it is recognized that Cu wiring and HSQ are closely proximate.

Furthermore, 2nd step filling of a conductive layer such as that of the invention relating to Claims 5 and 7 of the present application is recognized as being already known.

Claims 1, 5 and 7

Citation 6

Remarks:

Reference is made to the 5th embodiment.

Furthermore, the filling process of the conductive layer such as that of the invention relating to Claims 5 and 7 of the present application is recognized as being already known.

Reference Citation List

1. Japanese Laid Open Patent Publication Hei 11-186274
2. Japanese Laid Open Patent Publication Hei 11-186261
3. Japanese Laid Open Patent Publication Hei 11-191676
4. Japanese Laid Open Patent Publication Hei 4-134827
5. Japanese Laid Open Patent Publication Hei 10-140584
(Japanese Laid Open Patent Publication Hei 11-330075)
6. Japanese Laid Open Patent Publication Hei 11-38566
(Japanese Laid Open Patent Publication 2000-243749)

Record of the Examination Results relating to Documents of
the Prior Art

- Examined Technical Field: IPC 7th Edition

H01L21/768

The record of the examination results relating to documents of the prior art does not constitute the grounds for rejection.